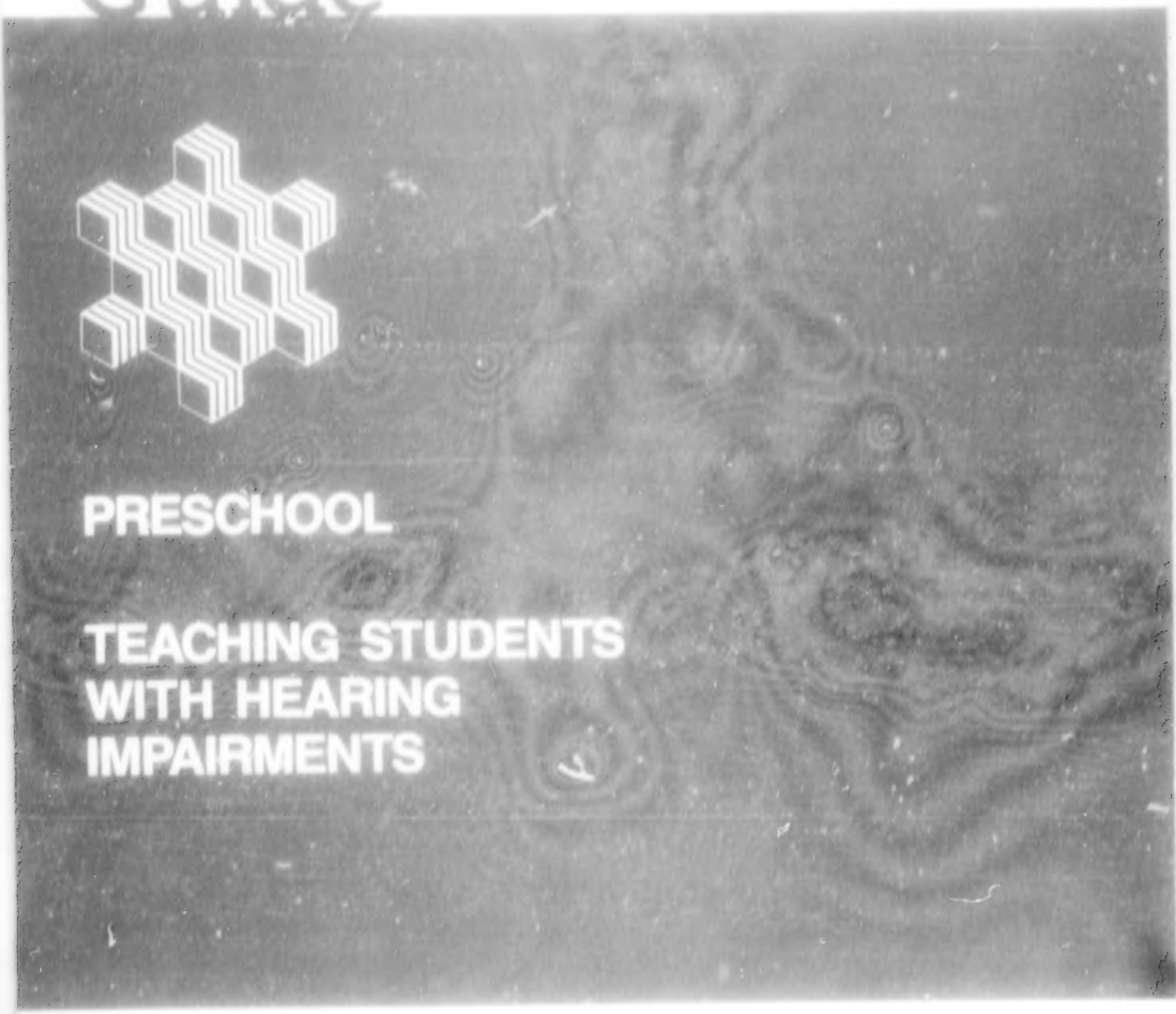
Curriculum Guide



PRESCHOOL

TEACHING STUDENTS WITH HEARING IMPAIRMENTS

Québec

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Le guide pédagogique est destiné aux éducateurs du préscolaire qui ont dans leurs classes un ou plusieurs enfants handicapés auditifs. Il contient, dans la première partie, des renseignements sur le handicap auditif et décrit certaines caractéristiques des enfants qui en souffrent. Dans la seconde partie, il suggère des attitudes et des approches pédagogiques appropriées pur faire face à ce problème en classe. Le but du guide est de donner à ceux qui sont responsables de l'éducation préscolaire une meilleure connaissance du handicap auditif et de ses implications pour l'enseignement. Le guide ne prétend pas être exhaustif ni proposer la seule route à suivre; son but est simplement de suggérer des stratégies possibles que les éducateurs sont libres d'enrichir et de modifier selon leur expérience.

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TEACHING STUDENTS WITH HEARING IMPAIRMENTS

Direction générale des programmes
Direction de l'adaptation scolaire
et des services complémentaires

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FOREWORD

This guide is intended to complement **The Curriculum for Preschool Education**[1] and the related curriculum guide. It contains information on hearing impairment and hearing aids, describes some characteristics of hearing-impaired children and suggests appropriate attitudes and instructional approaches. The purpose of this guide is to give those responsible for preschool education a better knowledge of hearing impairment and its implications for teaching. It is hoped that teachers who have one or more hearing-impaired students in their classes will find this information relevant. It is, however, not designed exclusively for teachers, but for anyone working with hearing-impaired children.

This guide does not claim to be comprehensive or to propose the only route to follow; its purpose is simply to suggest possible strategies which teachers are free to enrich or modify as they gain more experience with these students. Nor is it a specialized guide which answers all questions. It does not provide enough information to train teachers, or to eliminate the need for help from other sources. It is intended rather as a reference to which preschool teachers may turn if necessary for answers to some of the questions that may be puzzling them.

Other guides for elementary and secondary school teachers will follow.

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1 Québec, ministère de l'Éducation, Code 16-1080A (Québec: ministère de l'Éducation, 1984).

INTRODUCTION

The ministère de l'Éducation has taken special measures to provide early education for children with sensory or physical impairments in an effort to give them the opportunity to develop their full potential.

As soon as children are identified as hearing-impaired, whatever their age, special attention should be given to their special needs. The earlier in their lives intervention begins, the earlier these children will learn to listen, hear and communicate. Hearing-impaired children may come to class with several years of parent-infant guidance and preschool experience behind them, or it may be the teacher who is the one to discover that an apparently inattentive, unresponsive child actually has a hearing loss. There are many specialized services available to children and teachers through the school boards. If the child is already a "graduate" of a preschool program, the teacher will be informed by parents and the child's itinerant teacher of the support services available. If the teacher discovers a child has a hearing problem, he/she should seek out the special services needed through any number of support personnel familiar with hearing-impairment. (A listing of resource persons is found at the end Part II.) This document will provide teachers with information that may assist them to make interventions as effective as possible.

In the first part, entitled "Information on Hearing Impairments," the teacher will find a definition of hearing impairment and information on the human ear, on hearing range, on the loudness of various everyday sounds, on types, causes, and degrees of hearing loss, and on assessment and diagnosis of hearing loss. The section continues with information on hearing aids, a discussion of social and emotional development of hearing-impaired children, and information about cognition, interpreting test results, and visual versus auditory memory.

Part II entitled, "The Teaching/Learning Process" provides guidelines for communication with hearing-impaired students in the classroom. It provides suggestions for the physical organization of the classroom, and for activities and material. This is followed by a section on parental involvement and a list of other resources and resource persons.

The Appendix provides a description of the parts of a hearing aid, instructions for battery insertion, and information on common problems with hearing aids.

PART I

INFORMATION ON HEARING IMPAIRMENTS

1. HEARING

The Ear

The human ear is made up of three main parts. The outer ear consists of the pinna, the external auditory canal, and the eardrum; this is where sound is received. The middle ear, behind the eardrum, is composed of three small bones which react to sound by vibrating and transmitting the sound to the inner ear. The inner ear, composed chiefly of the cochlea and the auditory nerve, analyzes sounds and transmits them to the brain to be interpreted.

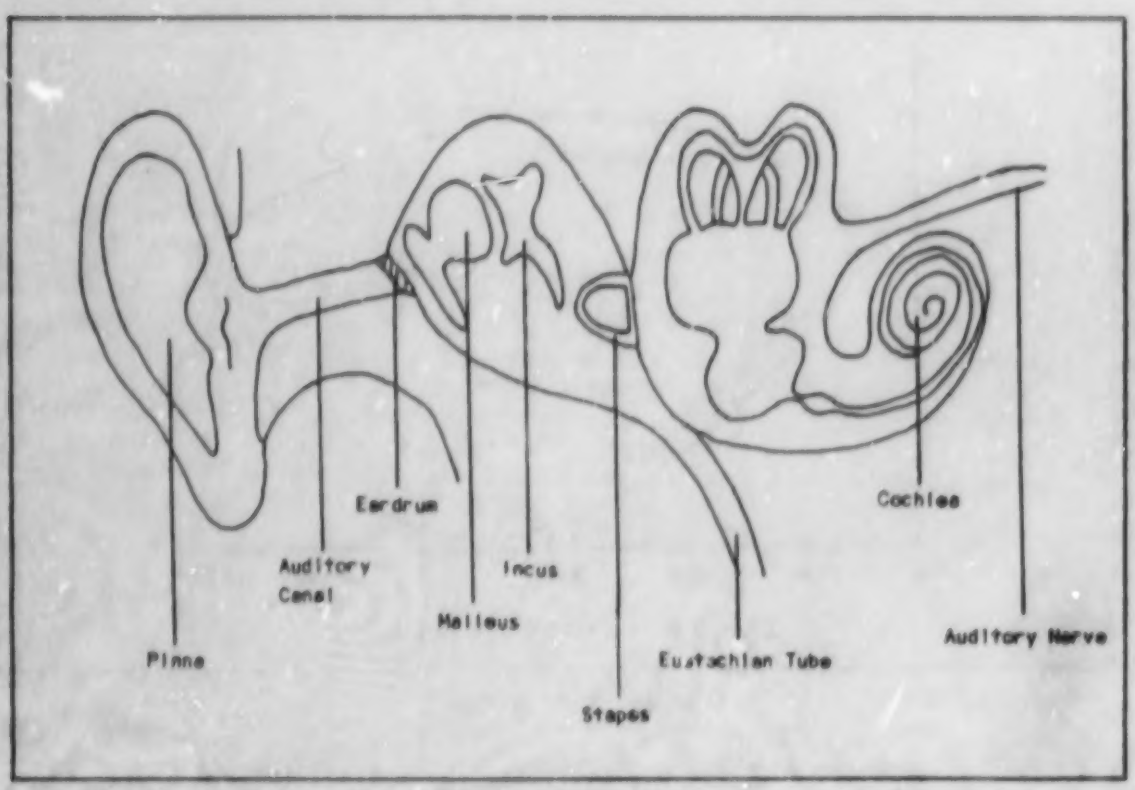


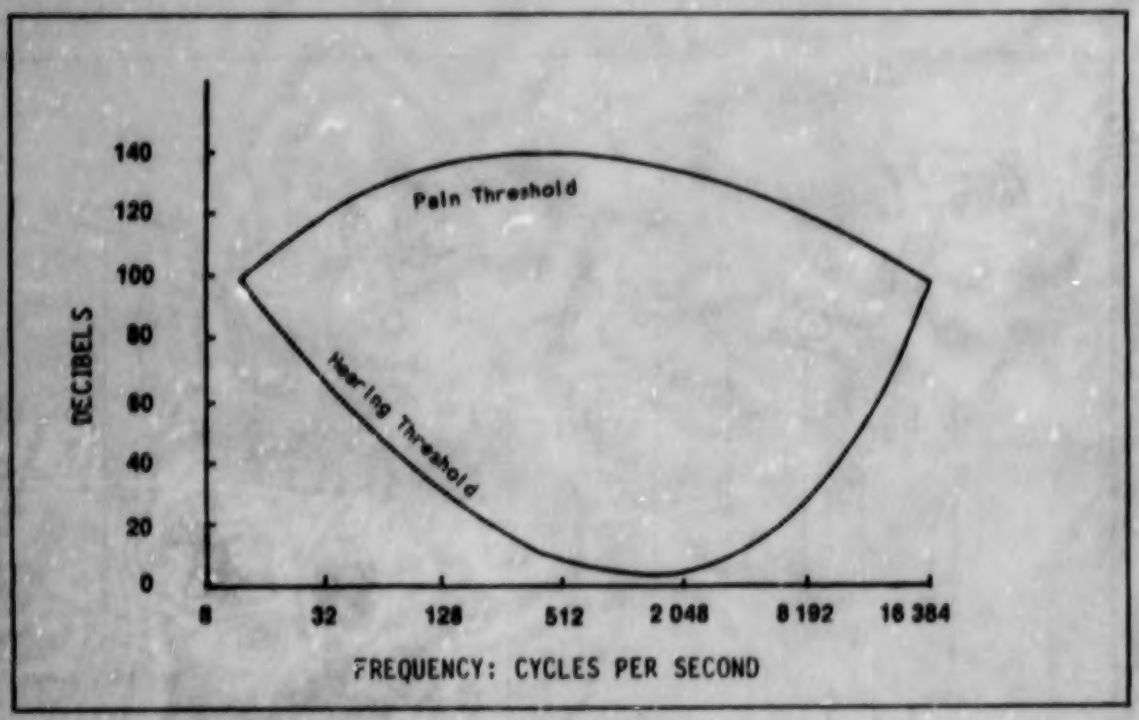
Diagram of the Ear

The Human Hearing Range

The human ear analyzes the sounds it receives in terms of loudness or intensity (strong or weak) and pitch (high or low). FREQUENCY involves the pitch of a sound and is expressed in HERTZ. The number of HERTZ corresponds to the number of vibrations per second. The more vibrations there are per unit of time, the higher the sound; the fewer there are, the lower the sound. Intensity of sound is expressed in DECIBELS. The examples which follow show the relative intensity of a few common sounds.

Conversation	60 dB SPL[1]
Airplane jet engine	140 dB SPL
Disco music	120-130 dB SPL
Rustling leaves	10 dB SPL

At birth, a human being can perceive frequencies of up to approximately 20 000 hertz, but this sensitivity decreases with age: an adult can scarcely hear frequencies of more than 14 000 hertz. The most important frequencies for speech are between about 125 and 14 000 hertz.



Human Hearing Range

The hearing range of the human ear is limited by the hearing threshold and the pain threshold. The hearing threshold is determined by the minimum degree of loudness necessary for a sound to be heard. The pain threshold is the degree of loudness (number of decibels) which, for a given frequency, produces pain in the human ear.

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[1] Sound Pressure Level

HEARING IMPAIRMENT

Definition

Hearing impairment is a reduction in the hearing range. It is a diminished capacity to hear sounds. Hearing impairment refers to hearing losses ranging from mild to severe, whereas deafness usually refers to a loss of 120 dB or greater in both ears and extending over a limited number of frequencies. Very few people are totally deaf.

Hearing impairment may be CONDUCTIVE or SENSORINEURAL or MIXED (a combination of the two).

CONDUCTIVE hearing loss is caused by an obstruction in the transmission of sound in the middle ear. Vibrations are stopped or muffled before reaching the inner ear. The inner ear, however, remains intact.

SENSORINEURAL hearing loss is caused by damage to the hair cells of the inner ear and pathways to the brain. Once destroyed, these hair cells do not regenerate. Hearing loss results because certain sounds are not transformed into neural impulses or are only transformed when quite loud.

Causes

The main causes of CONDUCTIVE hearing loss are malformations or obstructions of the outer and middle ears. These can take the form of:

- the absence or atrophy of the outer ear;
- obstruction of the auditory canal;
- a change in the eardrum or ossicles (malleus, incus, stapes);
- infections of the middle ear (otitis media).

Today, this type of hearing loss is treated, for the most part, through surgery and/or medication, but habilitation is essential to prevent a delay in linguistic and academic development.

The causes of SENSORINEURAL hearing loss are varied and are not always known. Certain types of hearing loss are hereditary; others are acquired before, during or after birth. PRENATAL loss of hearing is due mainly to abnormalities in development, or illness (e.g. German measles) or intoxicants in the mother which affect the fetus. A BIRTH-INDUCED hearing loss is generally associated with a difficult delivery and its consequences (e.g. lack of oxygen). Premature infants are at a high risk of being hearing impaired.

POST-NATAL hearing loss is usually caused by one of various illnesses (e.g. meningitis). Since this type of hearing loss is irreversible, it is important to stress preventive and habilitation measures.

As well as understanding the causes, it is important to know the AGE OF ONSET of the impairment. The difference between children impaired before learning language and children impaired after learning language is significant for educating the child.

Degrees

There are different degrees of hearing loss, ranging from MILD to PROFOUND. A MILD hearing loss, of 15 to 35 dB, results in a decrease in the selective skills of the ear, making, for example, conversation more difficult. Children with such a hearing loss tend to speak loudly and turn up the television. They have trouble understanding whispers or someone speaking at a distance. They are often accused of being inattentive and easily distracted because they ask people to repeat things.

Hearing losses of 36 to 55 dB, termed MODERATE, and of 56 - 70 dB, termed MODERATELY SEVERE, require the use of hearing aids. With the help of hearing aids, conversation becomes possible, but is easier with one person at a time. It is easier for hearing-impaired children to understand conversation if they are standing face to face with the speaker. This allows them to supplement hearing with reading lips. A moderate hearing loss causes difficulty in speech development. This can be counteracted by providing early education and assistance from an early age.

A hearing loss of 71 to 90 dB is SEVERE. Even with the use of a hearing aid, the little that can be heard is not enough to ensure good communication. Usually other visual cues, such as lip reading, are necessary to communicate effectively with another person. For children with this degree of difficulty, systematic teaching of language is necessary to help them to articulate correctly, and to construct sentences properly.

Beyond 91 dB, impairment is PROFOUND. Hearing aids, although necessary for learning intelligible language, are not always enough. Language development is usually delayed or restricted. Children with profound hearing losses need continual help and special stimulation to develop as normally as possible. In general, they manifest voice, pacing and articulation problems, as well as delayed language development.

The degree of hearing loss is not, however, the only factor which determines the extent of the impairment. Age of onset, early provision of hearing aids, parental attitude, effective parent trainers, presence of other impairments or disabilities and the child's desire to communicate are among other factors which may modify the effects of a hearing loss.

The Hearing Threshold May Vary

A particular child's hearing threshold may fluctuate. Colds, otitis (inflammation of the ear) or other illnesses can temporarily aggravate the impairment. Also, in certain cases, hearing loss is progressive, that is, it increases with time. Regular testing has proven necessary to identify these variations and to make it possible for the requisite measures to be adopted. Teachers should be sensitive to changes in behavior (aggressiveness or inattentiveness), slower or sporadic progress, and so on, which may be indications of changes in the degree of hearing. Also it is important to alert the itinerant teachers[1] involved.

HEARING ASSESSMENT

Different methods are available to audiologists to assess children's hearing. These methods vary depending on the child's:

- age;
- intellectual capacity;
- physical abilities;
- linguistic capabilities.

The most frequently used method of evaluation at the preschool level is **PLAY AUDIOMETRY**, a type of testing in which the child is conditioned to give a specific response. Play audiometry consists of associating a motor activity (such as putting a block in a box, stringing a bead on a string, raising a hand, pointing to a picture, and so on) with a sound stimulus. Tangible reinforcements or social reinforcements such as applause or smiles may be used according to a graded or variable reinforcement pattern in order to make the task easier for the student to learn. This method of assessment is the one most frequently used in clinics.

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[1] See section 10 on "Other Resource Persons" for a description of the role of the itinerant teacher.

A STANDARD EVALUATION of a child's hearing consists of the following:

A. A series of tests using AIR CONDUCTION.

Earphones are placed directly over the ear. The sound enters the external auditory canal directly and travels to the middle and inner ears. These tests fall into two main categories, speech reception threshold tests and pure tone tests.

SPEECH RECEPTION THRESHOLD TEST

This type of test consists in having the child repeat a list of two-syllable words in order to identify his/her minimal hearing threshold. If the child is unable to repeat these words intelligibly due to articulation or other types of difficulties, pictures may be used. The child must show that he/she understands the words he/she hears by pointing to the appropriate picture. Once the child understands the vocabulary and the task, his/her minimal hearing threshold can be calculated.

PURE TONE THRESHOLD TEST

This type of test consists in having the child listen to pure sounds at different pitches and intensities. The child must raise his/her hand or press a button as soon as he/she hears the sound stimulus. When he/she understands what is to be done, the intensity of the sound is progressively lowered until the sound can be heard only 50% of the time.

B. A series of tests using BONE CONDUCTION.

A vibrator is attached to the mastoid (the bone behind the pinna) to allow the sound to reach the inner ear directly. Bone conduction tests involve the same procedure as air conduction tests. Both these tests provide information from which the child's AUDIOGRAM can be determined.

C. IMPEDANCE TESTING.

Impedance testing involves a complementary examination which helps the professional to make a diagnosis. It can be used for both very young children and adults. It provides information on the condition of the middle ear (which consists chiefly of the eardrum, the ossicular chain and the Eustachian tube) and the inner ear (which consists chiefly of the cochlea, the auditory nerve and the semicircular canals).

Because hearing impairment can affect many different aspects of development, it is necessary to obtain a total diagnostic profile of each child. A comprehensive evaluation for the purpose of diagnosis should include:

1. initial assessment by pediatrician or family physician
2. otolaryngologic examination
3. audiological tests
4. assessment of communication skills
5. ophthalmologic examination
6. selected medical/laboratory tests to help determine etiology
7. developmental (psycho-motor) tests
8. selected referrals to specialists
9. assessment of cognitive abilities
10. assessment of social and emotional adjustment
11. assessment of educational achievement
12. assessment of family characteristics
13. assessment of socio-linguistic factors.[1]

The above assessments should be carried out by qualified professionals in each field, followed by a team conference with the parents.

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[1] Ottawa, Minister of National Health and Welfare, Guidelines for the Practice of Language-Speech Pathology and Audiology, (Ottawa: Minister of National Health and Welfare, 1982), p. 62.

2. HEARING AIDS

Most children with hearing losses will be wearing two hearing aids. A hearing-impaired child should always come to class wearing his/her hearing aids. Depending on the age of detection of the loss, the child may be coming to class as a sophisticated hearing aid user or as a new user. If the child is a new hearing aid user, he/she may need an adjustment period to adapt to any physical discomfort, negative parental attitudes regarding hearing aid use, or just to the new sensation in his/her ears. If children have been wearing their hearing aids for some time, they will be responsible for their care and use. The itinerant teacher will help with any problems of children not wanting to wear their aids.

A hearing aid is a sound-amplifying device. It does not enable a person to hear normally, but it does amplify certain sounds. What the children hear with their hearing aids is dependent on the type of loss, the degree of loss and how experienced they are as listeners. Especially in the beginning weeks and months, a child will tire easily from the concentrated listening required, but full-time use of the hearing aids is vitally important. (For further description of hearing aids, see the Appendix).

LIMITATIONS OF HEARING AIDS

Most hearing-impaired children wear ear-level aids. These aids fit behind the ear and are attached through tubing to the earmold worn inside the ear. Although hearing aids have made certain things possible which were never possible before, the classroom teacher should be aware of their limitations.

- The aids become less effective as the DISTANCE between the child and source of sound increases. If someone at the back of the classroom speaks to a hearing-impaired child in the front of the room, the latter will have trouble understanding the message.

- Background noise is amplified to the same extent as speech. The buzz of overhead lights or of a radiator in winter may appear to be barely audible to the hearing, but can be very loud to a hearing aid user.

FM SYSTEMS

The biggest help to a young hearing-impaired child in the classroom is the use of an FM, frequency modulation, system. The teacher wears a small unobtrusive microphone clipped to his/her lapel from which radio signals are transmitted to a receiver worn by the student. As a result:

a) The child is able to hear as if he/she were standing next to the speaker. This is a great advantage, especially in open areas and large classrooms, or on field trips.

b) Background noise is greatly reduced.

c) The teacher can vary his/her distance from the child without changing the "hearing" distance. In essence, it is as if the teacher were talking directly into the student's ear.

3. COMMUNICATION AND HEARING IMPAIRMENT

Language is learned principally by listening. Hearing impairment, therefore, can be a major obstacle to the normal process of acquiring spoken language. Various communication systems are available for the hearing-impaired, and there is much discussion on which is the best. Every child is different, and individual factors should be taken into account before deciding on a school placement. Furthermore, assessments should be made on a regular basis to monitor progress and to ensure correct placement.

Communication systems for the hearing-impaired include:

Sign Language

This technique enables deaf and hearing-impaired persons to communicate with each other using a series of conventional gestures rather than words. There are various forms of sign language; only the most common will be mentioned here.

True SIGN LANGUAGES (for example, AMERICAN SIGN LANGUAGE) are distinct from spoken language and have their own grammatical structures and syntax. Signs can also be used to reinforce a spoken language, such as English or French, while respecting the normal structure of the language. Several variations exist and often a mixture of several techniques are used (conventional signs, fingerspelling, and so on).

Sign language enables deaf people to communicate with each other. However, it does not make their social integration any easier because very few hearing people know it.

THE MORE SPECIALIZED THE CODE, THE LESS ACCESSIBLE IT IS.

THE MORE PEOPLE THERE ARE WHO HAVE MASTERED THE CODE, THE MORE VARIED ARE THE POSSIBLE INTERACTIONS.

Oralism

Oralism means teaching the hearing-impaired to speak and to understand the speech of others by hearing and lip reading. There are very few totally deaf people. Most people with impaired hearing have some "residual" hearing and most can learn to speak with amplification of their residual hearing. If they succeed in doing so, their academic and social integration is made considerably easier. Oralism makes maximum use of a person's residual hearing

capacity, and emphasizes early learning of speech and lip reading. Oralism has a "normalizing" effect in that it brings the hearing-impaired closer to the world of the hearing. Because this technique is more difficult for a child with profound hearing lors, early diagnosis and early intervention are essential to its success. Extensive parental involvement is also essential. Oralism does not work for all hearing-impaired children, but may be the only method that works for some.

Total Communication

Total communication includes all methods of communicating with others such as the use of words, gestures, facial expressions, fingerspelling, signs, and speech. It gives hearing-impaired and deaf people who can speak and sign the opportunity to integrate into hearing society as well as into the community of the deaf. Its goal is the acquisition of knowledge by all possible means. An instructional approach which uses the system of total communication requires that teachers have interpreting skills and that parents learn sign language.

At present, in Québec, the two most favored techniques of dealing with the effects of hearing loss are oralism and total communication.

THE VARIOUS METHODS OF CUMMUNICATION FILL DIFFERENT NEEDS. ORALISM IS USUALLY USED WITH HEARING-IMPAIRED CHILDREN WHO ARE INTEGRATED INTO REGULAR CLASSES.

4. SOCIAL, EMOTIONAL, AND COGNITIVE DEVELOPMENT

Although they may not feel deprived, hearing-impaired children nevertheless have limited access to language, an important source of pleasure and means of communication and interaction for the hearing population. As a result, these children are more aware of stimuli obtained through the other senses.

HEARING-IMPAIRED CHILDREN OFTEN LACK THE REASSURING EFFECT OF NOISE AND SPEECH.

Everyone has had the experience of being startled by someone suddenly appearing in front of them or touching them. Deaf children are often taken by surprise in this way.

HEARING IMPAIRMENT RESULTS IN LESS INFORMAL CONTACT WITH THE ENVIRONMENT.

When hearing people are busy doing something, their hearing is constantly on the alert. They register auditory information about what is going on around them. It can be said that they maintain informal contact with their surroundings while paying attention to what they are doing. Hearing-impaired children are frequently labelled as inattentive, distracted, or unstable, when in fact it is their lack of hearing which requires them to consciously seek contact with their surroundings.

HEARING IMPAIRMENT CAN AFFECT BEHAVIOR.

It is difficult enough to help a hearing child through the rebellious phases that are part of normal personality development. Since it is sometimes difficult to understand the ways in which hearing-impaired children assert themselves, people have a tendency to react to their behavior with systematic rejection. Furthermore, people who are unsure of how to discipline hearing-impaired children often alternate between a laissez-faire attitude and a repressive approach. It is important not to feel sorry for these children. As with any child, the best strategy to adopt is to be firm and consistent. It is important that hearing-impaired children know what is expected of them. They will feel much more secure if the teacher's expectations are clear and consistent.

LEARNING THE RULES WHICH GOVERN SOCIAL BEHAVIOR IS MORE DIFFICULT.

Full command of language would enable hearing-impaired children to familiarize themselves more easily with certain social rules. Because they may have limited language, they will have to experience concrete application of these rules, for the words alone may have little meaning. Many social behaviors,

such as saying "Good morning" upon entering the room, or saying "Please" and "Thank you," while often learned incidentally by children with normal hearing, may have to be explicitly taught and repeated for hearing-impaired children. However, if the children do not seem to apply the rules, it should not be assumed that delayed language acquisition is the cause. Most people are familiar with the laws concerning traffic lights and yet penalties (fines and demerit points) must be imposed to enforce them. These penalties do not, in fact, in any way help to improve recall of the laws or rules, but rather incite people to obey the law and remind them that such rules concern them personally.

Generally speaking, children with hearing losses, like most other children, behave appropriately with adults who know how to set limits. However, because of their hearing loss, they are somewhat less aware of the formalities of normal verbal communication. They sometimes fail to understand or misinterpret what is happening, and may be less aware than hearing children of what may be called "verbal respect." Unlike hearing children, they may not have learned from listening to the conversations of people around them that certain respectful forms of address are used with grown-ups, such as parents, grandparents, aunts, uncles and teachers.

HEARING IMPAIRMENT AND MEMORY

Hearing-impaired children are likely to have poor auditory recall. They are more dependent on processing and storing information through their visual memory alone, rather than by using both their auditory and visual memories. They are, therefore, more likely to have a sharper memory for things such as people and places, items which are stored in our "visual bank," while other tasks, such as remembering the words to a song, may take much longer. This, of course, is the general rule. There may be hearing-impaired children whose auditory recall is excellent.

HEARING IMPAIRMENT AND ABSTRACT THINKING

Like all young children, hearing-impaired children tend to base their concepts on the literal and concrete meanings of things. Depending on the individual child and the degree of hearing loss, hearing-impaired children may experience some difficulties in thinking abstractly. Since abstract thinking is based on the ability to generalize from a broad language base which takes time to acquire, hearing-impaired children may need more time to develop this ability.

However, with the help of an enthusiastic teacher who encourages them to think, solve problems, and discuss ideas, most children will be able to progress.

PART II

THE TEACHING/LEARNING PROCESS

5. GENERAL PRINCIPLES

The objectives of preschool education for the hearing-impaired are to foster the child's autonomy and to encourage his/her social, emotional and cognitive development, with special emphasis on language and communication skills. The preschool teacher, who sees the child daily, will likely be the first one to notice if there is a lack of or a decline in the child's progress in any of the above areas or a sudden change in his/her behavior or communication skills. Preschool teachers should monitor the child's progress closely, but should also remember that they are never alone in their task. There is always a team of support personnel available. An itinerant teacher of the hearing-impaired, an audiologist, parents and other resource persons are always ready to answer questions and to provide information, guidelines, suggestions and so on. Being well informed about the needs of hearing-impaired children is essential to being able to meet these needs.

A. Communicating

The extent of the child's hearing impairment is determined by the degree of impairment (mild, moderate, severe, profound, total), the age of onset (congenital, acquired before or after language development), the type of impairment (conductive, sensorineural, or mixed; stable, progressive or fluctuating) and other factors. It is therefore difficult to give a profile of a "typical" hearing-impaired child, or even to predict how he/she will communicate with the teacher. Suffice it to say that if the child's level of speech, language, and socio-emotional development makes it virtually impossible to communicate, then he/she should be referred to a special program for the hearing-impaired. Hearing-impaired children who are integrated into regular kindergarten classes usually have some speech and language skills, have had some exposure to schooling, and are able to take a certain amount of responsibility for their hearing aids. In addition, these children are usually monitored by an itinerant teacher of the hearing-impaired. Some children (depending on the degree of their hearing loss) will have good speech and language ability; others may have more limited language skills and may experience some speech difficulties.

FOLLOWING ARE SOME GUIDELINES FOR COMMUNICATING WITH HEARING-IMPAIRED CHILDREN:

UNDERSTANDING HEARING-IMPAIRED CHILDREN

- PAY ATTENTION TO WHAT THEY ARE TRYING TO SAY. As with any young child, their facial expressions and gestures, together with their words, will help you understand their message.

. Always answer their questions.

Example:
Nadia wants something, but no one can make it out. If after one or two attempts, what she is saying is still unintelligible, her listeners should tell her they do not understand and ask her to please say it again. The teacher might suggest various solutions and look for clues in the child's reactions. Nadia should not be the only one making an effort in the attempt to communicate.

MAKING YOURSELF UNDERSTOOD

. GET THE CHILD'S ATTENTION. Always gain the child's attention before saying anything which involves him/her in any activity. Call the child by name. If he/she does not respond, move in closer and speak again, giving a gentle touch to attract his/her attention.

. USE BRIEF INSTRUCTIONS. Give explanations or instructions in brief, easy-to-understand language.

. CALL OBJECTS BY NAME rather than referring to an item as "it," "this," "that," or "thing." Vocabulary enrichment will not progress unless items are given their proper names. Remember that hearing-impaired children often need to hear a new word many times more than children with normal hearing before they can remember it. Teachers can help to enrich the vocabulary of hearing-impaired children by calling everything by its name.

. REPHRASE AND RESTATE questions or instructions. If a student does not seem to understand, instead of repeating the question over and over again, substitute words and simplify the grammar. The problem may be a key word that the student does not understand. Some words are particularly difficult to lip-read. If the child still does not understand, physically help him/her to carry out instructions, explaining the steps as the activity progresses.

. CHECK COMPREHENSION. Hearing-impaired children often have a habit of responding "Yes" when asked "Do you understand?" when, in fact, they have not understood at all. Always ask a question related to the subject or to the directions to make certain they are following.

. MOVE CLOSER TO THE CHILD; DO NOT SHOUT OR RAISE YOUR VOICE. There is a misconception that if a person speaks louder, the hearing-impaired child will hear better. In fact, as the voice is raised above a normal speaking

level, the sound is distorted by the hearing aid and the child will not hear as well. Instead, if the child cannot hear you, move closer to him/her while continuing to use a normal speaking voice.

- SPEAK CLEARLY, BUT DO NOT EXAGGERATE MOUTH MOVEMENTS. Children will imitate what they see; therefore give them a proper model for speaking.

- DO NOT MOVE ABOUT WHILE SPEAKING.

HELPING CHILDREN EXPRESS THEMSELVES

- ENRICH THEIR VOCABULARY GRADUALLY. A record book or an illustrated word bank (using cards or a notebook) may be useful. Remember to call everything by name. Also remember that hearing-impaired children may hear a word 25 times and still not be able to understand or remember it. Be patient. It sometimes takes hundreds of repetitions before a word is used spontaneously.

- REPEAT A PHRASE BACK TO THE CHILD, CORRECTING AND EXPANDING IT, showing him/her that you have understood the message while providing the proper model for the linguistic structure.
  Example: Child: "Baby cry."
  Teacher: "Yes, the baby is crying."
  or
  "Yes, I hear the baby crying, too!"

- DO NOT CORRECT A CHILD'S SPEECH OR LANGUAGE IN MID-SENTENCE. The hearing-impaired child may make pronunciation errors or grammatical errors while trying to explain something. It is more important that the flow of communication not be interrupted, and that the child feels he/she is a successful and interesting communicator. After responding to a child's statement, corrections may be made. Again, be selective. If the teacher corrects everything the child says, he/she will probably tend to avoid speaking.

  Some things, however, need immediate correction to clarify meaning. Always do so in a light-hearted, positive way.
  Example: Child: "We went to the zoo tomorrow!"
  Teacher: "You went to the zoo tomorrow! Do you mean you went to the zoo yesterday?"

The same correction procedures apply to the daily or weekly speech targets provided by the child's itinerant teacher.

- SUGGEST NEW MODELS TO THE CHILD in order to enrich his/her language.
  Example: Child: "Daddy sleep."
  Teacher: "Daddy is sleeping. He is tired."

- Provide opportunities for imitation, but DO NOT demand systematic repetition since this will quickly bore the child. Create situations which enable him/her to discover the usefulness of language.

Example (a) Making a request
Teacher: "Paul, say to John, 'Give me a pencil, please.'"
Child: "Give me a pencil, please."

Example (b) Expressing a reaction
Teacher: "Paul, tell John that it hurts."
Child: "It hurts!"

The child thus repeats words to transmit messages, give instructions or express emotions, in other words, he/she uses language for communication.

Hearing-impaired children, like all other children, learn to speak more easily in a context of meaningful communication. Thus an atmosphere favorable to communication must be created. The "teacher-communicator" should be affable and stimulating, and should create INTERESTING and MEANINGFUL communication situations. The ease with which hearing-impaired children remember a word like "ice cream" and forgets a word like "spinach" attests to the importance of interesting and relevant content and situations.

B. Starting School

If the hearing-impairment was detected early, chances are the hearing-impaired child will have had some exposure to preschool life. Others may not and their behavior will depend on their experiences within their families, and the reception given them by their classmates. If there are separation problems, try to reassure them, just as you would any other child. Distract their attention with an interesting toy or activity.

The following suggestions may also be helpful:

- Ask the parents to remain in the classroom for the first few days, gradually shortening the length of their stay.

- Ask for a photograph of the parents, show it to the child and try to help him/her understand that they will return.

- Point to the hands on the clock. Indicate that when they are in a particular position Mommy or Daddy will return.

- Find a playmate who will be able to interest him/her in a game.

- Place familiar objects in his/her field of vision: his/her teddy bear, clothes, lunch box, book, and so on.

These children must be given time to familiarize themselves with the group and to feel at ease. When they feel a certain degree of personal security, they can be encouraged to participate in group activities. Not all children, however, are timid and fearful. As with any group of children, some may even break basic social rules. They too need to be taught how to behave in a group.

ESTABLISHING A GOOD RELATIONSHIP WITH THE CHILD:

- Observe his/her behavior.

- Find out his/her likes and interests.

- Be attentive to his/her requests.

- Welcome his/her contributions.

SUGGESTING ACTIVITIES THAT ARE PLEASANT AND FEASIBLE FOR HEARING-IMPAIRED CHILDREN:

- Offer enough explanation to allow the children to participate fully in the group's activities.

- Do not confine them to passive roles; let them be leaders too.

- Expect hearing-impaired students to participate in all class activities. There are very few things they cannot do. The teachers' expectations can greatly influence students' performance.

HELP THEM LEARN THE RULES WHICH GOVERN BEHAVIOR IN SCHOOL:

- Hearing-impaired children should learn the importance of sharing, tolerance, and respect. The school environment provides everyone with the experience of having to share space, time and materials.

The classroom belongs to all the children who use it. Every child has certain rights. Toys, materials and books are there for all the children to use; each child has the right to a turn. It is usually through language that children develop an understanding of these realities. Sometimes hearing-impaired children, like other preschoolers, have not completely assimilated the ideas of sharing, respect and tolerance. Day-to-day experiences will enable them to compare their rights with those of others and to discover the rules which govern group life.

HELPING THEM MAKE FRIENDS:

Hearing-impaired children's difficulties in communicating may make their first contacts with the other children difficult, and may make the forming of friendships more difficult.

- Help hearing children to understand the hearing-impaired better by explaining the latter's difficulties, and showing them that they are basically the same as other children.

- Talk about hearing impairment, and explain that children with hearing impairments must be within closer range to hear what others are saying.

- Take advantage of real situations to help hearing-impaired children understand why certain things are not allowed.

C. Learning

Hearing-impaired children need to learn how to use language effectively. To assist them in achieving this goal, teachers should:

- Encourage hearing-impaired children to PARTICIPATE ACTIVELY. Concrete materials and realistic situations enhance the learning experience.

- Foster development of listening skills. Listening is often taken for granted, but hearing-impaired children need to "learn to listen." They should use their SENSE OF SIGHT to provide themselves with additional clues for understanding, but they should not depend on lip reading at the expense of listening.

- Help them to PAY ATTENTION to details and nuances.

- Encourage them to ASSOCIATE and to compare things. This will enable them to discover similarities and differences.

- Make REFERENCE to what they already know.
- INCREASE and VARY their experiences.
- SPEAK while doing classroom demonstrations; always speak clearly and concisely.
- USE many illustrations. Children always find it very helpful to have pictures, posters, and books to refer to in order to check whether they have understood.

6. PHYSICAL ORGANIZATION OF THE CLASSROOM, TEACHING MATERIALS, AND CLASSROOM PROCEDURES AND ACTIVITIES

Physical Organization of the Classroom

The PHYSICAL organization of a classroom for a group which includes a hearing-impaired child is not very different from the organization of any other classroom. Nonetheless, certain things such as LIGHTING, NOISE and the SEATING LOCATION of the child in the classroom must be given special consideration.

SUGGESTIONS

- Lighting should always be adequate.
- The light should be on the speaker's face, not in the student's eyes. The student will not be able to lipread otherwise.
- When speaking, always face the class. Otherwise, the hearing-impaired child cannot lipread and may miss other essential visual clues.
- For the same reason, do not hold a book in front of your face while reading. Book and speaker should be facing the child.
- Do not give instructions in a dark room (e.g. during a film).
- Articulate clearly, but do not make exaggerated lip movements.
- Do not move about while speaking.

NOISE should be eliminated as much as possible, since hearing aids amplify background noise to the same degree as speech. Too much noise in the classroom is tiring for young hearing-impaired children and makes understanding speech more difficult. Any measure that will reduce or muffle noise should be taken: for example, the use of carpets, wallpaper, wall hangings, acoustic tile, tablecloths on playing tables, and so on. It is also advisable to set aside rest areas (with cushions and mattresses) where the children can retreat to an atmosphere of calm.

SUGGESTIONS

- Help the other children understand that it is important to keep the noise down since noise tires a hearing-impaired child wearing hearing aids, and can even be painful for him/her.
- Remember that hearing aids amplify all noise as much as speech.

The DISTANCE factor must also be taken into consideration when arranging worktables or deciding where the hearing-impaired child will sit. He/she must be close to the source of sound, which generally means a short distance from the teacher. The farther the distance from the speaker, the weaker the sound. If the hearing-impaired child sits at the back of the room, he/she may not hear someone speaking to him/her from the front of the classroom. An FM system should be used to enhance the teacher's voice without amplifying background noise.

SUGGESTIONS

- Allow the hearing-impaired child to change places if necessary.
- Always move closer to the hearing-impaired child rather than shouting.
- Use an FM system
- Seat the hearing-impaired child away from hall or street noise, and not more than 6 feet away from the teacher.

Teaching Materials

Specialized teaching materials can sometimes be developed by the teacher of the hearing-impaired. All the games and toys normally used at the kindergarten level will be appropriate, but priority should be given to:

- Games which help to develop verbal skills. Games and songs with repeated refrains (Farmer in the Dell, Old Macdonald, a Hello song, a Good-bye song, London Bridge, nursery rhymes, Ring-a-Round-a-Rosy) are all important for the hearing-impaired child to learn. Most of these songs are accompanied by actions which make them easier to follow for a hearing-impaired child who may not hear or understand all the words. However, at no time should the actions be substituted for the words. Also, the itinerant teacher and parents can help by practicing these songs with the children.

- Games and toys which do not require complicated instructions.

- Pictures and photographs. These can be an invaluable aid to both teacher and child. Choose illustrations that are clear and unambiguous. Images that are too "busy" will not be of any help. Vary the pictures and photographs so that children may enlarge their perceptions, i.e. do not always show Labrador retrievers every time dogs are being discussed.

SUGGESTIONS

- Build up a bank of pictures and photographs.

- Collect magazines and catalogues. Renew the supply often since outdated pictures are less interesting.

Classroom Procedures and Activities

SCHEDULE, CHOICE AND PREPARATION OF ACTIVITIES, DISTRIBUTION OF TASKS

When planning the SCHEDULE, it should be taken into account that the hearing-impaired child must make a greater effort than other children to listen.

SUGGESTIONS

- Allow for periods of relaxation at regular intervals.

- Do not schedule work periods that are too long. Alternate free and organized play.

The hearing-impaired child can participate in all kindergarten ACTIVITIES, but in certain cases the teacher will have to pay special attention. Circle time, story time, nursery-rhyme and song activities will proceed more smoothly by following a few simple guidelines.

SUGGESTIONS

- Use an FM system to enhance the teacher's voice.
- Always face the hearing-impaired child when teaching a new nursery rhyme, song or story, and be sure to sit or stand reasonably close to him/her.
- Use illustrations and props whenever possible.
- Do not cover the face or lips.
- For songs and nursery rhymes, remember that repetition is the key to learning.
- During circle time, help the hearing-impaired child follow the different speakers. Be sure he/she knows who is speaking. It is often helpful to repeat or rephrase what has been said for the hearing-impaired child.
- Do not give long talks at the beginning of an activity.
- Although it sometimes takes more patience, it is essential that the hearing-impaired child be encouraged to participate in all classroom activities.
- Again, any problems the teacher may encounter regarding the child's participation and/or behavior can be talked out with the appropriate resource person or itinerant teacher of the hearing-impaired.

7. ACTIVITIES

All kindergarten activities hold great interest for hearing-impaired children. A number of these activities are described here to help teachers in their task. For hearing-impaired children to benefit as much as possible from their time in kindergarten, priority should be given to verbal communication and particular attention should be devoted to the teaching/learning process.

Stories

Listening to stories is very enriching for all children, including hearing-impaired students, in spite of the fact that the latter must work harder to concentrate. A well-told story enables them to increase their language comprehension, to learn new words and to follow a sequence of events.

WHAT TO DO BEFORE READING A STORY IN CLASS

- Read the story beforehand to find out what it is about and to make sure it is interesting and suitable for the child. Is the level of language appropriate? Does he/she know the vocabulary? How could the story be modified, if necessary?
- Choose illustrated books to make stories more interesting and easier to understand.
- Give copies of the illustrated books to the hearing-impaired child for him/her to leaf through and to look at during the reading.
- Tell the parents and the itinerant teacher what book is being read in class and when.

...WHILE READING

- Seat the child facing the narrator.
- Hold the book in such a way that the child can see the illustrations and point to the appropriate pictures throughout the reading.
- Do not cover the face or lips with the book.
- Add any relevant information and act things out if necessary.
- Explain new words.
- Be animated.

...AFTER READING

- Carry out a follow-up activity; for example, suggest that the child do drawings or related cutting-and-pasting activities.

- Illustrate new vocabulary which has just been presented and then use it in different contexts.

- Encourage the child to act out the story using props.

Songs and Nursery Rhymes

- Illustrate the song or nursery rhyme on a piece of cardboard which is kept in view.

- Sing the song or repeat the nursery rhyme often so that the child can become familiar with the rhythm and melody.

- Use gestures or body movement with the songs, when appropriate (e.g. Ring-a-Round-a-Rosy).

- Choose short songs and nursery rhymes at first. When the child has mastered these, introduce longer ones.

- Teach the song or rhyme in parts if it is very long.

- Give parents a copy of the nursery rhyme or song so that they can practice with the child at home.

Field Trips

Field-trip activities are very important for young hearing-impaired children because the students are placed in concrete situations and are given the opportunity to broaden their experience.

WHAT TO DO BEFORE FIELD TRIPS

- Choose destinations that are related to themes dealt with in class. Thus, a visit to a farm would be appropriate when studying animal life, while a visit to a fire station would be suitable when trying to make the child aware of the neighborhood.

- Prepare the child for the outing by explaining where they will be going, and what he/she will see or do there. If possible, show pictures or photographs.

...DURING THE TRIP

- Be particularly attentive to the hearing-impaired child, because he/she can hear very little at a distance and may not understand oral instructions addressed to the group.

- Give him/her SPECIAL ATTENTION to ensure that he/she benefits fully from all he/she sees. Volunteer explanations: name things, and explain how they work, if necessary. The hearing-impaired child may lack the vocabulary to ask questions; if the teacher does not take the initiative, he/she may seek information by touching or handling things, which may have undesirable consequences.

- Take pictures if possible.

- Invite the child's parents to accompany the group.

...AFTER THE TRIP

- Talk about the field trip using the photographs taken during the outing.

- Plan related activities, such as drawings and artwork projects of various kinds, which will remind the class of the experience.

- Keep pictures or drawings in a notebook which can be referred to for vocabulary, or to review a particular point or situation.

Activities Which Allow Students to Integrate Various Concepts and to Learn the Words Used to Express Them.

One frequent characteristic of hearing-impaired children is weak VOCABULARY. Many of the words normally acquired and used spontaneously by most four- and five-year-olds are often unfamiliar to the young hearing-impaired child. Special attention must, therefore, be given to vocabulary enrichment. GROUP VERBAL ACTIVITIES ALONE ARE NOT SUFFICIENT TO PROVIDE THE ENRICHMENT NEEDED.

CLASSIFICATION, SORTING and ASSOCIATION exercises should be presented in a clear and precise manner to provide a sound basis for language learning. The children will need to know the words used to express color, shape, dimensions, size, quantity, and so on, in order to prepare for subsequent learning.

Colors

Generally, hearing children of four or five years of age have already learned the names of many colors. This is not always the case with hearing-impaired children. Most of them should be able to follow the teacher's planned activities, but for those who cannot the following activities may be useful.

- Take a number of identical objects or shapes of different colors. Ask the child to group those which are exactly the same. In this way, the child becomes aware of color as a differentiating characteristic. Megablocks are useful for this activity.

- Choose a color, red for example, and ask the child to find a number of things that are red. A large red hoop could be placed on the floor and various red objects could be placed inside it. Also, a collage of various pictures of things that are red could be made on a piece of red cardboard. The same could be done for the other colors. The child may be able to complete these exercices successfully and still not be able to name the colors, but it is important that he/she be given actual experiences to help him/her learn the related languaye.

- Make color meaningful. Talk about clothes, lunch boxes, other items in the classroom.

- Next the child can be asked to locate and to name things that are red: this exercise calls upon both memory and experience.

- To encourage the child to learn the colors, the following sequence may be helpful:
  a. Point to the object and indicate its color saying,"That's red."
  b. Say to the child, "Show me something red."
  c. Now ask the question, "What color is...?"

- Always provide models using natural language.

- When discussing objects, try to refer to their colors.

Shapes

Recognizing shapes is a perceptual-motor activity. Use words such as "round," "square," and "triangular" to refer to shape. Various games can be used to help the hearing-impaired child to become more aware of the differences in shape and to express these differences verbally.

- Begin by using objects that differ only in shape, for example, a set of yellow blocks of different shapes.

- Have the child touch and handle the different shapes. For example, different-shaped blocks can be put in a bag placed behind the child's back. The child then takes a block from the bag and identifies it by feeling its shape.

- Repeat often any word that you want him/her to learn.

- Do not attempt to teach more than two words at a time, but work at the child's pace.

- When the child seems to know a word, even if his/her pronunciation is not perfect, move on to the next one. If, for example, the child always says "oun," for a round shape, the teacher should consider that he/she knows the word "round," in spite of the poor pronunciation.

OTHER POSSIBLE ACTIVITIES

Within the context of the day's activities:

- Have the student pick out one particular shape from a set of objects of various shapes.

- Have him/her point out various round or square objects in the classroom.

- Give the child the opportunity to play games with nesting toys.

- Play games such as matching similar shapes, and so on.

- Use any shape game that would be used with the rest of the class.

Size

Words expressing the relative size or dimensions of objects are at first rather vague for children. Such words express a relationship among animate beings or things and not their intrinsic properties. Sometimes hearing-impaired children cling to the first words that they learn and simply expand on their meaning, which makes acquiring more exact terms difficult. For example, when they know the word "small," they tend to use it to mean "short," "thin" or "narrow." It is important, however, for the children to know these words for purposes of subsequent learning, particularly for mathematics.

Suggestions

- Have all the children compare their heights. Ask them to measure themselves and to line themselves up according to height. This introduces the expressions "taller than," "shorter than," "the shortest," "the tallest," "the same height," "equal," and so on.
- Have the children compare large and small objects.
- Have them compare long and short distances.
- Have them identify the largest and smallest of a set of objects.
- Organize activities involving SERIATION or ORDERING, from the smallest to the largest and from the largest to the smallest.
- Have the child play with nesting toys, which involve putting one object into another or on top of another according to size.
- As the child is handling the objects, say "This is the largest one."
- Ask the child to identify the smallest object in a group of objects.
- Ask the child to tell you which object is the smallest.
- Illustrate the basic words on large pieces of cardboard:
  tall, big, small;
  short, long;
  just as, same, equal.

Numbers

Hearing-impaired children generally acquire the concept of numbers without difficulty. They need more time, however, to learn the words for the numbers.

. Pronounce the word for each number clearly.

. Make sure the child recognizes each word when it is spoken.

. Help the child to say the words.

Space

Children with hearing losses develop their perception of space gradually as all children do. However, the words denoting spatial relations must be given particular attention. Since these terms only have meaning in relation to one another, it is important to provide a large number and variety of activities designed to help children learn these terms.

WORDS TO BE LEARNED:

Always combine a word with the corresponding action.

above, below, in front of, behind, on, under, in, beside, near, far, in the middle, sitting, lying down, standing, etc.

. Have the child use his/her body to become aware of space.

Examples:
The child could be asked to:
- sit down, stand up, lie down
- move his/her arms up, down, forward, back, and so on.

. Encourage the student to handle objects.

Examples:
He/she could be asked to:
- put a ball in the box, a toy car under the table, and a motorcycle in front of the horse, etc.

After the child has been asked to carry out a particular action, such as putting a ball in a box, and seems to understand the words quite well, the teacher can carry out a different action and then ask the child where the object is.

. Using a magnetic board, move the various elements around.

. Have specially designed pictures on hand for this type of exercise.

Example:
After sketching a series of tables, ask the child to draw a ball on a table, then one under a table, and so on. These exercises are more suitable for a five-year-old than a four-year-old.

Time

It takes children a relatively long time to understand how time is organized. They will readily say, "I saw him tomorrow!" Although they know that words such as yesterday, this evening, and tomorrow relate to time, they often use them incorrectly because they have not had enough experience with the divisions of time and have only a vague frame of reference. Children first notice biological time: they are hungry and sleep at regular intervals. From these experiences they develop reference points for social time.

There are words which express temporal RELATIONS (before, after, now, later, soon, and so on), and others which are used to MEASURE THE PASSAGE OF TIME (day, morning, noon, evening, today, yesterday).

Developing a sense of how time is organized is a long and difficult process for children with a hearing loss, unless they are given extra help.

Examples:

. Illustrate the divisions of the day - morning, noon, evening, and so on - using the activities associated with each part of the day and the changes in the sun's position as reference points:
  - morning: we wake up, it is light outside, we eat breakfast, leave for school;
  - noon: we eat lunch;
  - evening: we eat supper, watch television, the sun sets, it gets dark, the moon and the stars come out, we go to sleep.

. Each day in class, make a group calendar. On it write the day of the week, the temperature, and draw illustrations of important events (birthdays, holidays, and so on) or special activities (an outing or movie, for example). Draw a school on the squares which indicate school days and a house before or after the squares which indicate holidays. Little by little the child will assimilate the concepts of time which relate to the division of the week and the year. Certain major events such as Christmas, Chanukah, summer vacation, Valentine's Day and Easter can be marked ahead of time. By having fixed points of reference, the child will learn the divisions of time and the corresponding vocabulary.

- Explain the day's activities to the child. Tell him/her what will be done first, second, and so on, so he/she can become accustomed to the order of events. It will also help the hearing-impaired child if he/she is shown illustrations of the daily sequence of activities.

  Example:
  The morning's activities consist of:
  a) a story
  b) painting
  c) free play

  Explain these to the hearing-impaired child to help him/her to better understand the passage of time and to integrate the vocabulary needed to express his/her understanding of time.

- Read sequence stories.

WORDS TO BE LEARNED:

soon, later, after, before, in a little while, a long time ago, today, yesterday, tomorrow, day, night, morning, noon, afternoon, evening.

General Remarks Concerning All Activities

- Give clear and precise instructions and make sure the child understands them. It is always better to ask a question requiring a specific answer rather than one requiring a simple yes or no response. A hearing-impaired child will often answer "yes" when he/she is not sure of the answer.

- Remember that it is normal for hearing-impaired children to forget words that they knew well the week before.

- Be patient if the children often stops to check whether something is right, or to see whether he/she is on the right track. Hearing-impaired children want to be sure they have understood correctly.

- Be sure that the language level used is appropriate for the child. If the child responds to a question with a quizzical look, rephrase the question.

8. MEASUREMENT AND EVALUATION

Only a few recommendations will be made here concerning the care that must be exercised when evaluating hearing-impaired children. Remember that with hearing-impaired children, comprehension of concepts is usually much better than their ability to express themselves. They may know colors but not know the words for the colors; they may understand the concept of numbers and know how to count on their fingers, for example, but not know the words for the numbers. For this reason, in evaluating hearing-impaired children, it is important not to equate their knowledge with their vocabulary.

- It is important TO OBSERVE the child's conduct, physical activities and methods of solving various problems.

- A TEAM assessment should be made; other professionals' evaluations should be used to complement the teacher's observations, for example, evaluations done by the itinerant teacher, the audiologist or a psychologist who is experienced in evaluating hearing-impaired children.

- Based on a total evaluation of the child, establish a PERSONAL plan for him/her and set clear objectives. His/her progress should not be compared to that of the group, but analyzed in relation to the particular objectives established for him/her. This can be done with the team of support personnel.

Before concluding that a hearing-impaired child is not progressing, it is important to ask "in relation to whom?" or "in relation to what?" A profile of the child's behavior should be established for each hearing-impaired student in order to determine his/her needs and the best ways of meeting them. The assessment should take into account both the child's performance and the teacher's strategies and style, since these two elements are interdependent.

Parents should be invited to discuss their child's progress.

9. PARENTS

Parents obviously play an important role in their child's life. They are the ones who can best stimulate and assist the child in the natural environment provided by the family. They know their child's real needs and are usually in the best position to meet them. The bond of affection which exists between a child and his/her parents gives parents a big advantage and a special power.

When a child begins school, naturally the parents are in the best position to inform the teacher about the child. By cooperating closely and communicating regularly with the teacher, parents can ensure that their actions complement the child's education. Obviously, what is done at home has an effect at school, and activities done in kindergarten class have an effect in the home. It goes without saying that what takes place at school adds to what takes place in the home, but does not substitute for it.

Suggestions Teachers Can Give to Parents

Parents should:

- Arrange to meet the classroom teacher. Discuss with him/her how to organize their child's activities at home or how best to foster the child's development.

- Arrange to meet the itinerant teacher so that he/she can guide and advise them on the ways to improve communication with their child.

- Prepare their child for kindergarten. Take him/her to the school, familiarize him/her with the physical layout, and introduce him/her to the teacher preferably before school starts, if possible.

- Inform the teacher of any important events, whether happy or sad, which have taken place at home and which may have an effect on the child at school.

- At home, use routine activities to stimulate the child, e.g. helping with the cooking, baking, laundry, cleaning. While doing these chores, it is important to talk about the activity.

- Present learning in a natural setting, through pleasant everyday activities rather than by formal schoolwork sessions.

Other Suggestions for Parents

- Speak to the child when helping him/her dress, when sitting at the dinner table, and so on. For example, a parent might say, "First put on your right shoe. That's it. Now your left shoe." Or, "Pull your shirt over your head. Now, put in your left arm. Now, your right arm." Language can be learned only through communication.

- Play with him/her by:
  - doing "I Spy."
  - following instructions,
  - giving instructions,
  - doing word games.

- Register him/her for sports and recreational activities in the community, if he/she is interested.

- Invite neighborhood children to the house.

Parents can occasionally help the teacher with classroom activities or on field trips, since these provide opportunities for parents to see their children in new situations. They can benefit from the teacher's experience and advice to enrich their own interaction at home.

The parents' involvement should not be limited to the classroom. It should take place at the school level as well, where they should be consulted and can assist in the creation or maintenance of the kind of services that they consider essential. Further suggestions for parent participation can be found in Parent Participation in Preschool Education.[1]

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[1] Québec, ministère de l'Éducation, Parent Participation in Preschool Education Code 16-1085A (Québec: ministère de l'Education, 1987).

Suggestions for the Teacher

- Establish and maintain contact with the parents.
- Assist parents in establishing and maintaining contact with the appropriate professionals, especially the itinerant teacher for the hearing impaired.
- Invite the parents to class and to organize activities for the entire group.
- Involve the parents in the language-acquisition program, in organizing the class and in planning outings.
- Encourage frequent discussion.
- Take the family environment into account.
- Give the parents all the support possible but be honest; speaking frankly is better than creating false hopes.

Other Ideas

- Organize correspondence with the parents: a notebook or log which enables both parents and teachers to keep informed about the child's activities, difficulties and achievements.
- Send the parents a copy of the weekly or monthly program to enable them to further assist their child. If a particular topic is being discussed at school, the hearing-impaired child will greatly benefit from a briefing session or review at home.
- Ask the parents to help collect pictures and other useful materials for the class.

10. OTHER RESOURCE PERSONS

Various people, such as psychologists, social workers, itinerant teachers, and so on, can help the teacher in his/her task. These support personnel are trained to work with hearing-impaired children and are available to help the classroom teacher. The role of some of these individuals is described briefly below to enable teachers to address their questions to the appropriate person.

Itinerant teachers

An itinerant teacher is a specialist in the development of speech and language learning in normally hearing and hearing-impaired children. He/she is also trained in the use of hearing aids (operation and troubleshooting), in doing audiological assessments and in the areas of child development and parent counselling.

The itinerant teacher works together with the classroom teacher to provide information, guidance, and ideas dealing with the hearing-impaired child. Depending on a child's hearing loss and needs, the itinerant teacher will visit the hearing-impaired child in his/her home school once or twice weekly. These visits are intended to lend support, to check hearing aids and hearing aid use, to give extra speech and language work, and to help the classroom teacher with any problems that may arise.

Audiologists

Audiologists evaluate hearing and hearing disorders by administering tests. They are also involved in hearing rehabilitation and hearing-loss prevention (in industrial plants, and elsewhere). They may teach and do research as well.

Speech Therapists

Speech therapists diagnose language, speech and voice problems, and treat communication difficulties of organic and non-organic origins (aphasia, stuttering, cerebral palsy, deafness, laryngectomy, and so on). They also guide teachers in the implementation of programs. The speech therapist can provide information on articulation, voice problems and language learning.

Hearing Aid Suppliers

Hearing aid suppliers sell and adjust hearing aids according to the diagnosis of the hearing problem. They also repair defective apparatus and make earmolds.

Otolaryngologists (ENT Specialists)

Otolaryngologists are doctors who specialize in the diagnosis and treatment of ear, nose and throat disorders. They are the people to consult regarding allergies or infections, and for periodic examinations. They conduct examinations of the ears and perform any necessary surgery.

Psychologists

A psychologist experienced in testing hearing-impaired children.

Social Workers

A social worker specially trained to work with hearing-impaired children.

CONCLUSION

Preschool education is a particularly important stage in the development of hearing-impaired children. It may seem that there is a lot to remember for teachers who have hearing-impaired students in their classrooms, but methods such as learning to face the child when speaking, moving closer to the child, and rephrasing questions become routine within a short time. Hearing-impaired children will benefit from the teacher's attention to these details, and the whole class will gain from the experience.

A support team is always available to teachers, so they need never feel alone with insolvable problems. Integrated preschool education has worked well in Québec because of the continued support of classroom teachers and resource personnel.

Just as in the case of preschoolers with normal hearing, learning will progress at different rates for every hearing-impaired child. It is the continued support and cooperation of the various professionals that help make this progress possible.

APPENDIX

Description of Hearing Aids

A hearing aid consists of:

(a) a microphone, which picks up sound waves and tranforms them into electrical signals;

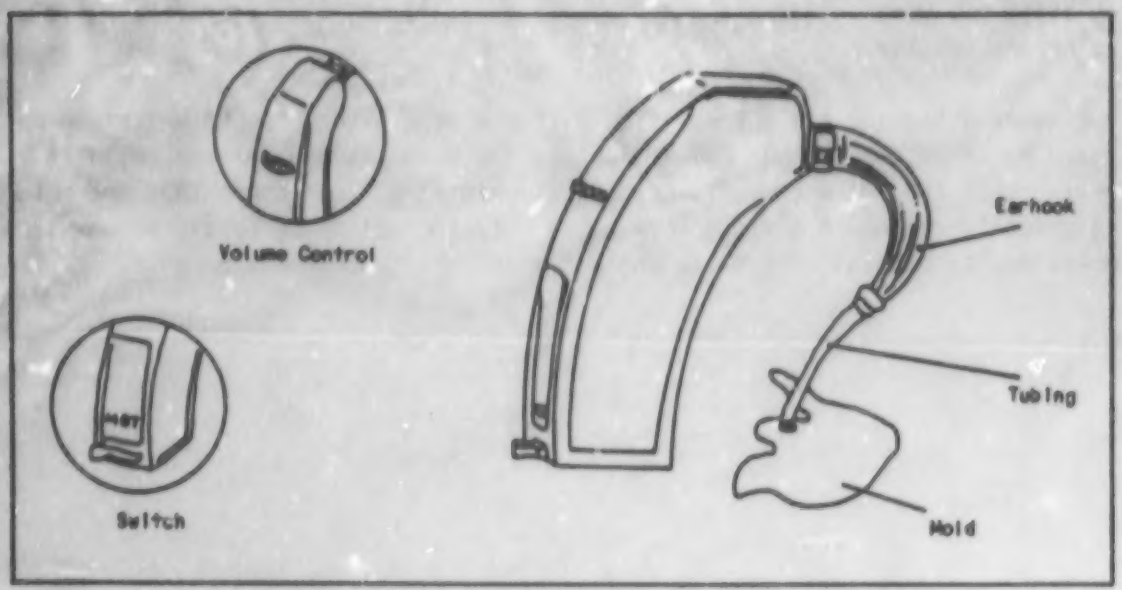
(b) an amplifier, which increases the intensity of electrical signals and adapts them to suit the subject's needs;

(c) a receiver, which transforms the amplified electrical signals into sound vibrations that are more intense than those which the microphone originally picked up;

(d) a earpiece or mold, generally made of plastic, and shaped to fit the impression of the auditory canal. It transmits the sound signals produced by the receiver.

(e) control buttons:
- The ON-OFF switch that activates or breaks the electric current which is fed by a BATTERY;
- volume control which regulates the loudness of the sound;
- the "T" switch for telephoning;

(f) a cord or tubing and hook, depending on the model used.



Earlevel (Postauricular or "Behind-the-Ear") Aid

Daily Classroom Verification

To verify how well a hearing aid is working, the teacher should know the auditory capabilities of the student when he/she is wearing his/her aid. In other words, to provide the hearing-impaired child with effective help IT IS NECESSARY TO KNOW WHAT HE/SHE IS PHYSICALLY CAPABLE OF HEARING AND UNDER WHAT CONDITIONS. The itinerant teacher of the hearing-impaired will be the best one to explain what the child is physically capable of hearing with his/her aids.

The children should check how well their hearing aids are working before they come to school and should be (or become) responsible for their own aids. However, the teacher should remain attentive and watchful throughout the day, since a hearing aid can malfunction at any time. The classroom teacher should pay attention to certain signs that indicate that the aids are not functioning, for example;

a. the child may tell you the aid is not working.
b. there may be a sudden change in benavior;
   the child suddenly becomes inattentive or disruptive.
c. the child may be unresponsive.

If, when the aid is on the ON position at a loudness setting of 2, by gradually turning it louder to 3 or 4 no sound comes out, the battery may be dead. Have the child change batteries. (See illustration below.) If the aid is still not working, send a note home to the parents, and inform the child's itinerant teacher.

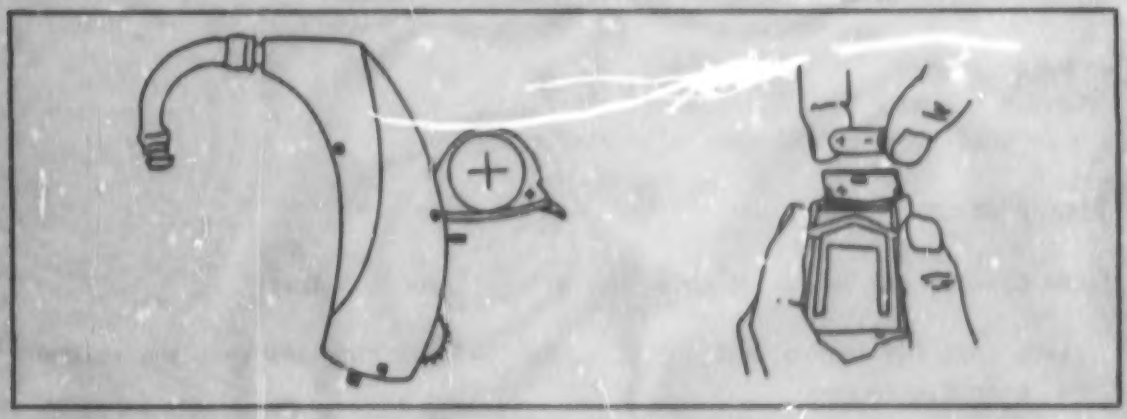
Sometimes a hearing aid may whistle, giving a high pitched sound which can be heard by other people, but may in fact be too high-pitched for the child to hear. Tell the child that his/her aid is whistling, and ensure that the mold is properly seated in the auditory canal. If the whistling persists, new earmolds may be needed. Alert the child's itinerant teacher and parents.

CARE OF THE HEARING AID

Ear Level or "Behind-the-Ear" Aid

The Batteries

Insert the batteries in the proper position, taking care never to force them. Be sure that the + sign on the batteries points towards the + sign in the battery compartment.



Earlevel or Behind-the-Ear Aid

- To ensure good contact, make sure the batteries are dry before placing them in the hearing aid.

- Always have on hand new batteries that have been kept in a cool, dry place. Avoid storing batteries in metal containers. Do not stock too many since they lose their effectiveness if they are kept longer than six months without being used.

- Some batteries may be defective even when new. If the hearing aid does not work with one set of batteries, try another set to be sure it is not defective.

- Battery life depends on the quantity of energy required to operate the hearing aid.

The Hearing Device

- Handle it properly and avoid banging it against things.
- Keep it away from heat.
- Make sure that it does not get wet as moisture can do serious harm.

- In case of an accident:
  - remove the batteries;
  - dry out the hearing aid.
- Any trace of humidity may cause faulty contacts.
- Once dried out, the hearing aid should function normally.
- Remove it before swimming, going to bed and rough play.

The Tubing

- Avoid twisting the tubing as this cuts off sound.
- Make sure the tubing is completely dry. If condensation causes droplets to form inside, blow into it to dry it out.

The Mold

- Remove the mold by pulling at its base.
- Make sure it is not clogged with wax or dirt.

COMMON PROBLEMS

If the hearing aid functions only intermittently or not at all:

1. Check that the control button is in the "ON" position and that the volume has been turned up.

2. Check that there are batteries in the device and that they have been inserted properly, that is, that the positive and negative poles have not been reversed.

3. Insert new batteries if needed.

4. Make sure the mold is not clogged with wax or dirt.

5. In the case of a behind-the-ear aid, make sure the tubing is not twisted or perforated, and that no condensation has formed.

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Addresses of possible sources of additional information

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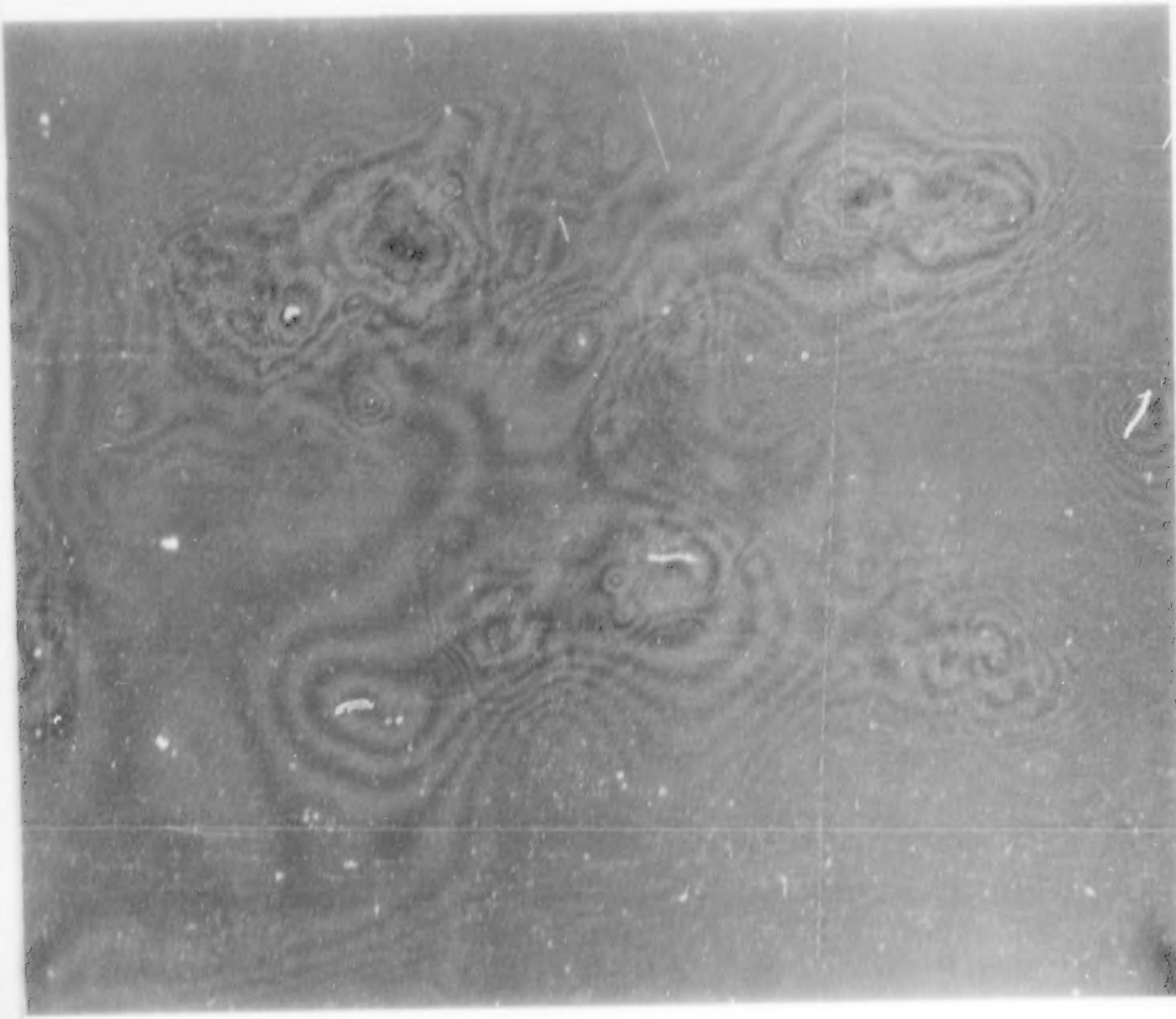

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